The Texas Commission on Environmental Quality (TCEQ, agency, or commission) proposes amendments to §§222.1, 222.3, 222.5, 222.31, 222.33, 222.73, 222.75, 222.81, 222.83, 222.85, 222.87, 222.115, 222.119, 222.127, 222.157, 222.159, and 222.163.

#### Background and Summary of the Factual Basis for the Proposed Rules

On March 14, 2016, the commission received a petition from the City of Austin (petitioner). The petitioner requested that the commission initiate rulemaking to amend 30 TAC Chapters 222 and 309 (Project Number 2016-033-PET-NR). The rulemaking would allow permittees and applicants to rely on the beneficial reuse of treated wastewater when calculating the amount of land required for disposal of treated wastewater. This would allow permittees and applicants to reduce the acreage dedicated for land application that is currently required by rule. The commission approved the petition to initiate rulemaking with stakeholder involvement. The executive director held a stakeholder meeting on August 9, 2016 and the public was invited to comment on the petition. The public comment period was from August 28, 2016 through October 28, 2016.

Based on information presented at the stakeholder meeting, the executive director understands that the petition was made in response to increasing demands on water supplies and decreasing availability of contiguous or neighboring tracts of land that are large enough for domestic wastewater disposal under the commission's current

rules. This trend is currently appearing in parts of Central Texas where wastewater discharge to water in the state is restricted by the commission's rules and land application of treated wastewater is the only permissible disposal option. The executive director recognizes that land availability may also be limited in other parts of the state, and that practicable land application options are especially important wherever discharge to water in the state is restricted or infeasible.

The proposed revisions in this chapter, and the corresponding proposed revisions in Chapter 309, would allow a reduction in the acreage dedicated for land application of treated effluent by applying a "beneficial reuse credit" when calculating the disposal site area required. An applicant could also foreseeably request to use a beneficial reuse credit to increase the permitted flow without changing the disposal tract acreage or to change both the acreage and the permitted flow. The beneficial reuse credit will be based on the demonstrated firm reclaimed water demand. The effluent storage size required by Chapter 222 may not be reduced by the beneficial reuse credit. The proposed rulemaking would establish the criteria for demonstrating firm reclaimed water demand, the procedure for calculating and applying the beneficial reuse credit, and the requirements for a permittee who has been granted a beneficial reuse credit. The proposed amendments correct inaccurate or outdated references to TAC or provide additional clarity.

# **Section by Section Discussion**

The commission proposes to amend Chapter 222 to replace the term "waste" with

"wastewater" throughout to clarify that regulations in this chapter apply to wastewater.

The commission proposes to amend Chapter 222 to update references to ensure current and accurate cross-references, improve readability, improve rule structure, and use consistent terminology. These changes are non-substantive and are not specifically discussed in the Section by Section Discussion of this preamble (i.e., §§222.1, 222.3, 222.73, 222.75, 222.87, 222.115, 222.119, and 222.163).

# §222.5, Definitions

The commission proposes §222.5(2) to define "Beneficial reuse credit" as the term is proposed to be defined in Chapter 309 for consistency and to establish usage of the term as it relates to proposed §222.83(d) and (e) and §222.127(c). The commission proposes to renumber the subsequent paragraphs accordingly to accommodate the proposed definition.

The commission proposes to amend the definition of "Domestic waste" in renumbered §222.5(5) to include a reference to 30 TAC §210.82 to clarify the term "Graywater" used in the definition.

The commission proposes to amend the definition of "Industrial waste" in renumbered §222.5(14) to correct the term to "Industrial wastewater" and clarify the term to be more consistent with the defintion in 30 TAC §312.8.

The commission proposes to amend the definition of "Public contact" in renumbered §222.5(20) to replace the existing definition with language similar to the definition of "Public contact site" in §312.8 to prevent ambiguity and for consistency.

# §222.31, Application Process

The commission proposes to amend §222.31(a) to remove reference to systems that did not have a permit prior to the adoption of the rules as this reference is obsolete.

The commission proposed to remove §222.31(b) and (c) since the references are obsolete. Subsurface area drip dispersal system facilities that held permits prior to July 31, 2006, have applied for permits under this chapter and therefore these subsections are obsolete. The commission proposes to re-letter the subsequent subsections accordingly to accommodate the proposed deletions.

The commission proposes to amend relettered §222.31(d) to remove redundant language.

The commission proposes to amend §222.31(l)(6) to change "poor performer" to "unsatisfactory performer" to be consistent with the definition in §60.2(g)(2) and correct the reference from §60.3 to §60.2.

# §222.33, Public Notice

The commission proposes to delete §222.33(a) to remove redundancy.

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§222.81, Buffer Zone Requirements

The commission proposes to amend §222.81(a)(2) to remove the reference to §309.13(c)(1) as the reference is not necessary.

§222.83, Hydraulic Application Rate

The commission proposes §222.83(d) to allow the beneficial reuse credit to be used when calculating the disposal area required based on the hydraulic application rate. The applicant, if granted a beneficial reuse credit by the executive director in accordance with Chapter 309, Subchapter D (Beneficial Reuse Credit), may reduce the permitted wastewater flow volume by the beneficial reuse credit when calculating the disposal area required based on the hydraulic application rate. This allows a person to reduce the required size of the disposal site. An applicant could also foreseeably request to use a beneficial reuse credit to increase the permitted flow without changing the disposal tract acreage or to change both the acreage and the permitted flow.

The commission proposes §222.83(e) to prohibit reducing the disposal site area by more than 50% of the area required based on the permitted flow. The applicant must have a disposal site area that can receive at least 50% of the permitted flow, even if 100% of the effluent is used as reclaimed water. If an applicant who was granted a beneficial reuse credit in a previous permit action requests an increase in permitted flow, they must still satisfy this requirement. This requirement provides a reasonable

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margin of safety against unauthorized discharges (e.g., if a user is not able to accept reclaimed water).

§222.85, Effluent Quality

The commission proposes to amend §222.85(b)(1) to remove redundant language.

§222.127, Storage

The commission proposes §222.127(c) to prohibit the reduction of the required storage. Effluent storage is especially necessary if the disposal site acreage has been reduced by the beneficial reuse credit and the amount of reclaimed water distributed to users declines. Not allowing reductions in effluent storage provides an extra safety measure against unauthorized discharges (e.g., if a user is not able to accept reclaimed water).

§222.157, Soil Sampling

The commission proposes to amend §222.157(c) to remove "or extractable" to provide clarity. Acceptable methods that use extractions make it possible to report nutrients on a plant-available basis, which is more meaningful for calculating soil nutrient balances.

§222.159, Operator Licensing

The commission proposes to remove §222.159(d) because the compliance period has passed, and all facilities are required to meet the requirement.

Fiscal Note: Costs to State and Local Government

Jené Bearse, Analyst in the Budget and Planning Division, determined that for the first five-year period the proposed rules are in effect, no significant fiscal implications are anticipated for the agency or for other units of state or local government as a result of administration or enforcement of the proposed rules.

The rulemaking is proposed in order to allow permittees and applicants to rely on the beneficial reuse of treated wastewater when calculating the amount of land required for disposal of treated wastewater. This would allow permittees and applicants to reduce the acreage dedicated for land application that is currently required by rule.

The state may see an insignificant increase in revenue because the rulemaking provides for a five-year permit instead of a ten-year permit; this would only apply to a very small subset of permits, Texas Land Application Permits with a beneficial reuse credit. The permit fee ranges from \$315 to \$2,050 depending on the size of facility and type of application.

#### **Public Benefits and Costs**

Ms. Bearse also determined that for each year of the first five years the proposed rules are in effect, the public benefit anticipated from the changes seen in the proposed rules will be the potential for a reduced demand on potable water supplies, increased land-use flexibility while protecting human health and the environment and providing for local economic growth.

The proposed rules are not compulsory and are not expected to result in significant fiscal implications for businesses or individuals. The proposed rules establish requirements for obtaining and maintaining a beneficial reuse credit. Because the proposed rules are optional, it is assumed that a unit of local government or entity that would apply for the beneficial reuse credit would see a net benefit.

## **Local Employment Impact Statement**

The commission reviewed this proposed rulemaking and determined that a Local Employment Impact Statement is not required because the proposed rules do not adversely affect a local economy in a material way for the first five years that the proposed rules are in effect.

# **Rural Community Impact Statement**

The commission reviewed this proposed rulemaking and determined that the proposed rules do not adversely affect rural communities in a material way for the first five years that the proposed rules are in effect. The rulemaking would apply statewide and have the same effect in rural communities as in urban communities.

## **Small Business and Micro-Business Assessment**

No adverse fiscal implications are anticipated for small or micro-businesses due to the implementation or administration of the proposed rules for the first five-year period the proposed rules are in effect. The proposed rules are not compulsory and are not expected to result in significant fiscal implications for businesses or individuals. The proposed rules establish requirements for obtaining and maintaining a beneficial reuse

credit. Because the proposed rules are optional, it is assumed that an entity that would apply for the beneficial reuse credit would see a net benefit.

# **Small Business Regulatory Flexibility Analysis**

The commission reviewed this proposed rulemaking and determined that a Small Business Regulatory Flexibility Analysis is not required because the proposed rules do not adversely affect a small or micro-business in a material way for the first five years the proposed rules are in effect.

# **Government Growth Impact Statement**

The commission prepared a Government Growth Impact Statement assessment for this proposed rulemaking. The proposed rulemaking does not create or eliminate a government program and will not require an increase or decrease in future legislative appropriations to the agency. The proposed rulemaking does not require the creation of new employee positions, eliminate current employee positions, nor require a significant increase or decrease in fees paid to the agency. The proposed rulemaking does not create, expand, repeal or limit an existing regulation, nor does the rulemaking increase or decrease the number of individuals subject to its applicability. During the first five years, the proposed rules should not impact positively or negatively the state's economy.

# **Draft Regulatory Impact Analysis Determination**

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the

rulemaking is not subject to Texas Government Code, §2001.0225 because it does not meet the definition of a "Major environmental rule" as defined in that statute. Texas Government Code, §2001.0225 applies to major environmental rules the result of which are to exceed standards set by federal law, express requirements of state law, requirements of a delegation agreements between state and the federal governments to implement a state and federal program, or rules adopted solely under the general powers of the agency instead of under a specific state law.

A "Major environmental rule" is a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The proposed rulemaking does not adversely affect, in a material way, the economy, a section of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of the proposed rulemaking is to adopt rules that identify best management practices that achieve the highest practicable level of water conservation and efficiency, including practices, techniques, and technologies that make water use more efficient, by allowing permittees and applicants to rely on the beneficial reuse of treated wastewater as an additional alternative means to dispose of a portion of its treated wastewater when calculating the amount of land required for disposal of wastewater. The proposed rulemaking affects the same class of regulated entities,

except that the entities may be able to reduce the dedicated land application acreage that is currently required by rule, which incentivizes and encourages wastewater permittees and applicants to reuse treated wastewater.

The proposed rulemaking modifies the state rules related to subsurface irrigation and land application of treated wastewater. This may have a positive impact on the environment, human health, or public health and safety; however, the proposed rulemaking will not adversely affect the economy, a sector of the economy, productivity, competition, or jobs within the state or a sector of the state. Therefore, the commission concludes that the proposed rulemaking does not meet the definition of a "Major environmental rule."

Furthermore, even if the proposed rulemaking did meet the definition of a "Major environmental rule," it is not subject to Texas Government Code, §2001.0225 because it does not meet any of the four applicable requirements specified in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225(a) applies only to a state agency's adoption of a "Major environmental rule" that: 1) exceeds a standard set by federal law, unless state law specifically requires the rule; 2) exceeds an express requirement of state law, unless federal law specifically requires the rule; 3) exceeds a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) is adopted solely under the general powers of the agency instead of under a specific state law.

In this case, the proposed rulemaking does not meet any of the four requirements in Texas Government Code, §2001.0225(a). First, this rulemaking does not exceed standards set by federal law. Second, the proposed rulemaking does not exceed an express requirement of state law, but rather meets the requirements under state law to adopt rules suggesting best management practices for achieving the highest practicable levels of water conservation and efficiency, and regulate more efficiently, the land disposal of treated wastewater by identifying practices, techniques, and technologies that make water use more efficient. Third, the proposed rulemaking does not exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program. Finally, the commission proposes the rulemaking under Texas Water Code, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271, 26.011, 26.027, 26.034, and 26.041. Therefore, the commission does not propose the rulemaking solely under the commission's general powers.

Written comments on the Draft Regulatory Impact Analysis may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

#### **Takings Impact Assessment**

The commission evaluated the proposed rulemaking and performed an analysis of whether it constitutes a taking under Texas Government Code, §2007.043. The following is a summary of that analysis. The specific purpose of the proposed

rulemaking is to adopt rules that identify best management practices that achieve the highest practicable level of water conservation and efficiency by modifying TAC to allow permittees and applicants to rely on the beneficial reuse of treated wastewater as an additional alternative means to dispose of a portion of its treated wastewater when calculating the amount of land required for disposal of wastewater. The proposed rulemaking will substantially advance this stated purpose by adopting language intended to regulate more efficiently the land application of treated wastewater by incentivizing and encouraging wastewater permittees and applicants to reuse treated wastewater.

Promulgation and enforcement of the proposed rules will not be a statutory or constitutional taking of private real property. Specifically, the proposed rulemaking does not apply to or affect any landowner's rights in private real property because it does not burden (constitutionally), restrict, or limit any landowner's right to real property and reduce any property's value by 25% or more beyond that which would otherwise exist in the absence of the regulations. These actions will not affect private real property.

# **Consistency with the Coastal Management Program**

The commission reviewed the proposed rules and found that they are neither identified in Coastal Coordination Act implementation rules, 31 TAC §505.11(b)(2) or (4), nor will they affect any action/authorization identified in Coastal Coordination Act

implementation rules, 31 TAC §505.11(a)(6). Therefore, the proposed rules are not subject to the Texas Coastal Management Program.

Written comments on the consistency of this rulemaking may be submitted to the contact person at the address listed under the Submittal of Comments section of this preamble.

# **Announcement of Hearing**

The commission will hold a public hearing on this proposal in Austin on July 25, 2019, at 10:00 a.m. in Building E, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes prior to the hearing.

Persons who have special communication or other accommodation needs who are planning to attend the hearing should contact Sandy Wong, Office of Legal Services at (512) 239-1802 or 1-800-RELAY-TX (TDD). Requests should be made as far in advance as possible.

#### **Submittal of Comments**

Written comments may be submitted to Ms. Kris Hogan, MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas

78711-3087, or faxed to (512) 239-4808. Electronic comments may be submitted at: <a href="https://www6.tceq.texas.gov/rules/ecomments/">https://www6.tceq.texas.gov/rules/ecomments/</a>. File size restrictions may apply to comments being submitted via the eComments system. All comments should reference Rule Project Number 2016-042-309-OW. The comment period closes on July 30, 2019. Copies of the proposed rulemaking can be obtained from the commission's website at <a href="http://www.tceq.texas.gov/rules/propose\_adopt.html">http://www.tceq.texas.gov/rules/propose\_adopt.html</a>. For further information, please contact Rebecca Moore, Wastewater Permitting Section, at (512) 239-0058.

#### SUBCHAPTER A: GENERAL PROVISIONS

§§222.1, 222.3, 222.5

## **Statutory Authority**

The amendments are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission, while TWC, §5.102, provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority as provided by TWC, §5.103; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities and duties under the TWC; TWC, §5.120, which requires the commission to administer the law for the maximum conservation and protection of the environment and natural resources of the state; TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state; TWC, §26.0135, which provides the commission with the authority to monitor and assess the water quality of each watershed and river basin in the state; TWC, §26.027, authorizing the commission to issue permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.034, which provides the commission with the authority, on a case-by-case basis, to review and approve plans and specifications for treatment facilities, sewer systems, and disposal systems that transport, treat, or dispose of primarily domestic wastes; TWC, §26.041, which gives the commission the authority to set standards to prevent the disposal of waste that is

injurious to the public health; and TWC, §26.121, which gives the commission the authority to set standards to prohibit unauthorized discharges into or adjacent to water in the state.

The amendments are also proposed under TWC, §11.1271(e), which requires the commission, in conjunction with the Texas Water Development Board, to develop model water conservation programs for different types of water suppliers that suggest best management practices for achieving the highest practicable levels of water conservation and efficiency achievable for each specific type of water supplier.

The amendments implement TWC, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271(e), 26.011, 26.0135, 26.027, 26.034, 26.041, and 26.121.

#### §222.1. Purpose and Scope.

The purpose of this chapter is to:

- (1) maintain the quality of fresh water in the state to the extent consistent with the public health and welfare and the operation of existing industries;
- (2) promote the beneficial reuse of commercial, industrial, and municipal wastewater [waste] for the economic development of the state, thereby reducing the demand on the state's supply of fresh water;

- (3) prevent underground injection that may pollute fresh water; and
- (4) require the use of all reasonable methods to implement this policy.

# §222.3. Applicability.

- (a) This chapter applies to any person who operates a <u>wastewater</u> [waste] dispersal system that:
- (1) injects processed commercial, industrial, or municipal wastewater effluent into the ground at a depth of not more than 48 inches; and
- (2) spreads the <u>wastewater</u> [waste] over the area so that the soil hydrologic absorption rate and crop/plant root absorption rate are not exceeded.
  - (b) This chapter does not apply to:
- (1) wastewater disposal systems authorized under Chapter 285 of this title (relating to On-Site Sewage Facilities) and Texas Health and Safety Code (THSC), Chapter 366;

- (2) disposal systems for oil and gas waste, tar sands, sulfur, brine from desalination plants, and hazardous waste as defined by THSC, §361.003;
  - (3) drainfields, leaching chambers, or other gravity trench systems;
- (4) subsurface drip irrigation systems that do not meet the definition of <a href="Subsurface">"Subsurface</a> [subsurface] area drip dispersal systems," as defined in §222.5 of this title (relating to Definitions); or
- (5) systems regulated in §331.8 of this title (relating to Prohibition of Motor Vehicle Waste Disposal Wells and Large Capacity Cesspools).

# §222.5. Definitions.

The definitions contained in Texas Water Code, §§26.001, 27.002, 28.001, and 32.003 apply to this chapter. The following words and terms, when used in this chapter, have the following meanings.

(1) Aquifer--As defined or amended under Chapter 331 of this title (relating to Underground Injection Control).

- (2) Beneficial reuse credit--As defined by Chapter 309, Subchapter D of this title (relating to Beneficial Reuse Credit).
- (3) [(2)] Buffer zone--The area between a subsurface area drip dispersal system boundary and surface <u>water</u> [waters] in the state, public and <u>private</u> [domestic] water <u>wells</u> [well], and springs.
- (4) [(3)] Crop requirement--The amount of nutrients that must be present in order to ensure that the crop nutrient needs are met, while accounting for nutrients that may become unavailable to the crop due to absorption to soil particles or other natural causes.
- (5) [(4)] Domestic <u>wastewater</u> [waste]--Waste and wastewater from humans and household operations that are discharged to a wastewater collection system or otherwise enters a treatment facility. This includes waterborne human waste and waste from domestic activities such as washing, bathing, and food preparation, including graywater (as defined or amended in §210.82 of this title (relating to <u>Definitions and General Requirements</u>)) and blackwater.
- (6) [(5)] Emitter--A device designed to discharge into the soil, a small uniform flow of water at a constant rate.

- (7) [(6)] Evapotranspiration--The water lost from an area through the combined effects of evaporation from the ground surface and transpiration from the vegetation.
- (8) [(7)] Facility--All land and fixtures, structures, or appurtenances used for storing, processing, treating, or disposing of <u>wastewater</u> [waste], or for injection activities. A facility may consist of several storage, processing, treatment, disposal, or injection operational units.
- (9) [(8)] Floodway--A channel of a river or watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the surface elevation more than one foot. Federal Emergency Management Agency [(FEMA)] maps are prima facie evidence of floodway locations.
- (10) [(9)] Fresh water--As defined or amended under Texas Water Code, §27.002.
- (11) [(10)] Groundwater--Subsurface water occurring in soils and geologic formations that are fully saturated year-round, seasonally, or intermittently.
- (12) [(11)] Hazardous waste--Any solid waste identified or listed as a hazardous waste by the administrator of the United States Environmental Protection

Agency in accordance with the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, 42 United States Code, §§6901 *et seq.*, as amended.

(13) [(12)] Hydrologic connection--The connection and exchange between surface water and groundwater.

(14) [(13)] Industrial <u>wastewater</u> [waste]--<u>Wastewater generated in a commercial or industrial process.</u> [Any non-domestic wastewater.]

(15) [(14)] Infiltration--The passage of water through the soil surface into the soil profile.

(16) [(15)] Licensed professional engineer--An individual licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the <a href="state">state</a> [State] of Texas.

(17) [(16)] Licensed professional geoscientist--An individual licensed by the Texas Board of Professional Geoscientists in accordance with its requirement for professional practice in the <u>state</u> [State] of Texas.

(18) [(17)] Local government--An incorporated city, county, river authority, groundwater conservation district, or a water district or authority acting under Texas Constitution, Article III, §52 or Article XVI, §59.

(19) [(18)] Owner--The person, corporation, partnership, or other legal entity that owns or partially owns a facility or part of a facility, or that owns or partially owns the land on which a facility or part of a facility is located.

(20) [(19)] Public contact--Contact with the soil over the dispersal zone by persons engaged in activities not associated with wastewater disposal. [Significant dermal contact with soil.]

(21) [(20)] Recharge feature—Those natural or artificial features either on or beneath the ground surface at the site that provide or create a significant hydrologic connection between the ground surface and the underlying groundwater within an aquifer. Significant artificial features include, but are not limited to, wells and excavation or material pits. Significant natural hydrologic connections include, but are not limited to: faults, fractures, karst features, or other macro pores that allow direct surface infiltration; a permeable or shallow soil material that overlies an aquifer; exposed geologic formations that are identified as an aquifer; or a water course bisecting an aquifer.

(22) [(21)] Soil--The upper layer of the surface of the earth that serves as a natural medium for the growth of plants.

(23) [(22)] Subsurface area drip dispersal systems--A <u>wastewater</u> [waste] disposal system that injects processed commercial, industrial, or municipal <u>wastewater</u> [waste] into the ground at a depth of not more than 48 inches and spreads the <u>wastewater</u> [waste] over a large enough area that the soil hydrologic absorption rate and crop/plant root absorption rate are not exceeded.

(24) [(23)] Surface water in the state--Water in the state as defined in Texas Water Code, §26.001(5), except that "groundwater, percolating or otherwise," is specifically excluded.

# SUBCHAPTER B: ADMINISTRATIVE PROCEDURES §222.31, §222.33

# **Statutory Authority**

The amendments are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission, while TWC, §5.102, provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority as provided by TWC, §5.103; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities and duties under the TWC; TWC, §5.120, which requires the commission to administer the law for the maximum conservation and protection of the environment and natural resources of the state; TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state; TWC, §26.0135, which provides the commission with the authority to monitor and assess the water quality of each watershed and river basin in the state; TWC, §26.027, which authorizes the commission to issue permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.034 which provides the commission with the authority, on a case-by-case basis, to review and approve plans and specifications for treatment facilities, sewer systems, and disposal systems that transport, treat, or dispose of primarily domestic wastes; TWC, §26.041, which

gives the commission the authority to set standards to prevent the disposal of waste that is injurious to the public health; and TWC, §26.121, which gives the commission the authority to set standards to prohibit unauthorized discharges into or adjacent to water in the state.

The amendments are also proposed under TWC, §11.1271(e), which requires the commission, in conjunction with the Texas Water Development Board, to develop model water conservation programs for different types of water suppliers that suggest best management practices for achieving the highest practicable levels of water conservation and efficiency achievable for each specific type of water supplier.

The amendments implement TWC, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271(e), 26.011, 26.0135, 26.027, 26.034, 26.041, and 26.121.

## §222.31. Application Process.

(a) An owner of a subsurface area drip dispersal system shall apply for a permit in accordance with the provisions of this section [for any subsurface area drip dispersal system that did not have an application for a subsurface area drip dispersal system permit that had been declared administratively complete or was authorized by a permit in effect at the time of the adoption of these rules].

- [(b) A permittee who holds a valid permit for a subsurface area drip dispersal system issued prior to July 31, 2006, and who wishes to renew that permit shall apply for a permit according to the requirements of this chapter upon the expiration date of the current permit.]
- [(c) A permittee who holds a valid permit for a subsurface area drip dispersal system issued prior to July 31, 2006, and who wishes to amend that permit shall apply for a permit amendment according to the requirements of this chapter.]
- (b) [(d)] Application for a permit shall be made on forms provided by the executive director. Applicants shall comply with §§305.41, 305.43, 305.44, [305.46,] and 305.47 of this title (relating to Applicability; Who Applies; Signatories to Applications; [Designation of Material as Confidential;] and Retention of Application Data).
- (c) [(e)] Upon receiving an administratively complete application for a permit, the executive director shall:
- (1) inspect the location of the proposed subsurface area drip dispersal system to evaluate the local conditions and the probable effect of the subsurface area drip dispersal system;

- (2) forward a copy of the permit application to the <u>Texas</u> Department of State Health Services for the purpose of soliciting comments on the application; and
- (3) allow 30 days for the <u>Texas</u> Department of State Health Services to submit comments on the permit application.
- (d) [(f)] The applicant shall submit an application that demonstrates compliance with the [technical] requirements set forth in this chapter [and shall demonstrate compliance with the requirements of Subchapter C of this chapter (relating to Siting Requirements and Effluent Limitations)].
- (e) [(g)] The applicant shall include the site preparation plan in the permit application packet. The site preparation plan shall comply with the requirements of §222.75 of this title (relating to Site Preparation Plan).
- (f) [(h)] The applicant shall provide such additional information in support of the application as may be necessary, as determined by the executive director, for an adequate technical review of the application.
- (g) [(i)] Each applicant and permittee shall comply with §305.61 and §§305.63 305.68 of this title (relating to Applicability; Renewal; Transfer of Permits; Renewal;

Permit Denial,[;] Suspension, and Revocation; Revocation and Suspension <u>upon</u> [Upon] Request or Consent; and Action and Notice on Petition for Revocation or Suspension).

(h) [(j)] The permittee must file the application for renewal of an existing permit no later than 180 days before the expiration date of the current permit. Upon request, the executive director may grant an exception to this requirement, but in no case may the executive director grant permission for applications to be submitted later than the expiration date of the existing permit.

(i) [(k)] Except as provided in §222.33[(b)] of this title (relating to Public Notice), notice, public comment, and hearing on applications shall be conducted in accordance with commission rules governing individual permits issued under Texas Water Code (TWC), Chapter 26. Each permittee shall comply with §305.125 of this title (relating to Standard Permit Conditions).

(j) [(l)] A permittee who holds a valid permit for a subsurface area drip dispersal system under <u>TWC</u> [Texas Water Code], Chapter 26 issued prior to July 31, 2006, may apply for and be granted a variance from the site requirements and design criteria in this chapter, if the subsurface area drip dispersal system is:

(1) not in need of repair;

- (2) not causing pollution as determined by the executive director;
- (3) not causing soil saturation or a build-up of waterborne constituents within the soil;
  - (4) not prohibited by §213.8 of this title (relating to Prohibited Activities);
- (5) not prohibited by §331.8 of this title (relating to Prohibition of Motor Vehicle Waste Disposal Wells and Large Capacity Cesspools); and
- (6) the permittee is not a <u>repeat violator or an unsatisfactory</u> [poor] performer [or repeat violator] as defined in §60.2(f) and (g)(2) of this title (relating to <u>Classification</u>) [§60.3(a) of this title (relating to Use of Compliance History)] or has other compliance history issues that may indicate the lack of ability of the permittee to comply with the permit and commission rules.
- (k) [(m)] The executive director may grant a period of up to three years, in accordance with §305.127(3)(A) of this title (relating to Conditions to be Determined for Individual Permits) to meet the requirements that were the basis for a denial of a variance to a permittee that applies for and is denied a variance, provided that the system meets the requirements in subsection (j) [(l)] of this section.

# §222.33. Public Notice.

[(a) For the purpose of public notices, subsurface area drip dispersal systems shall be subject to the same public notice provisions required for wastewater discharge permits described in §39.403(b)(2) of this title (relating to Applicability).]

[(b)] Applicants for subsurface area drip dispersal system permits shall comply with the regulations regarding public notice of applications for wastewater discharge permits found in Chapter 39 of this title (relating to Public Notice).

# SUBCHAPTER C: SITING REQUIREMENTS AND EFFLUENT LIMITATIONS §§222.73, 222.75, 222.81, 222.83, 222.85, 222.87

# **Statutory Authority**

The amendments are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission, while TWC, §5.102, provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority as provided by TWC, §5.103; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities and duties under the TWC; TWC, §5.120, which requires the commission to administer the law for the maximum conservation and protection of the environment and natural resources of the state; TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state; TWC, §26.0135, which provides the commission with the authority to monitor and assess the water quality of each watershed and river basin in the state; TWC, §26.027, authorizing the commission to issue permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.034, which provides the commission with the authority, on a case-by-case basis, to review and approve plans and specifications for treatment facilities, sewer systems, and disposal systems that transport, treat, or dispose of primarily domestic wastes; TWC, §26.041, which gives

the commission the authority to set standards to prevent the disposal of waste that is injurious to the public health; and TWC, §26.121, which gives the commission the authority to set standards to prohibit unauthorized discharges into or adjacent to water in the state.

The amendments are also proposed under TWC, §11.1271(e), which requires the commission, in conjunction with the Texas Water Development Board, to develop model water conservation programs for different types of water suppliers that suggest best management practices for achieving the highest practicable levels of water conservation and efficiency achievable for each specific type of water supplier.

The amendments implement TWC, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271(e), 26.011, 26.0135, 26.027, 26.034, 26.041, and 26.121.

## §222.73. Soil Evaluation.

(a) The applicant shall conduct and submit, with the application, a soils evaluation to identify the soils associated with the proposed site. At least one profile hole per soil type must be included in the evaluation. The applicant shall use soil borings, where appropriate, for enhancement of the profile hole determinations. The profile holes <u>used</u> [utilized] in the site evaluation must be no more than five feet deep,

or to the first continuous lateral lithic contact. The evaluation must include the following information:

(1) total depth of the profile hole;
(2) primary rooting depth;
(3) secondary rooting depth;
(4) horizon descriptions <u>which</u> shall include:
(A) depth of the horizon;
(B) soil texture;
(C) soil structure;
(D) soil color;
(E) mottling; and
(F) percent coarse fragments;

- (5) boundary descriptions (soil horizons);
- (6) restrictive horizons;
- (7) potential water bearing zones; and
- (8) active water bearing zones.
- (b) The soil evaluation shall be performed by a licensed professional <u>engineer or</u> licensed professional geoscientist [or engineer].

# §222.75. Site Preparation Plan.

The applicant shall develop and submit, with the permit application, a site preparation plan that illustrates how site preparation will alleviate potential site-specific limitations and ensure suitability for the subsurface area drip dispersal system [of wastewater]. This plan must include the following if applicable:

(1) a site plan to minimize rainfall run-on and maximize rainfall runoff from the dispersal zones;

- (2) design criteria to compensate for any restrictive horizons within the soil column;
- (3) soil importation with descriptions of the chemical and physical characteristics of the proposed import material; and
  - (4) any planned removal of existing vegetation.

# §222.81. Buffer Zone Requirements.

- (a) The permittee must locate the subsurface area drip dispersal system a minimum horizontal distance of:
- (1) 500 feet from public water wells, springs, or other similar sources of public drinking water;
- (2) 150 feet from private water wells [as described in §309.13(c)(1) of this title (relating to Unsuitable Site Characteristics)]; and
  - (3) 100 feet from surface water [waters] in the state.

- (b) The <u>permittee</u> [permittees] must locate the wastewater treatment plant unit in accordance with §290.41(c)(1)(B) of this title (relating to Water Sources) and §309.13(c) of this title (relating to Unsuitable Site Characteristics).
  - (c) Buffer variance.
- (1) The executive director may grant a variance to a permittee operating a subsurface area drip dispersal system under an existing authorization issued prior to November 1, 2006, to continue the operation and use of any existing subsurface area drip dispersal system located within the buffer zones listed in this section provided that the system:
- (A) is in compliance with the recharge feature plan required by §222.79 of this title (relating to the Recharge Feature Plan); or
- (B) is certified by a licensed professional engineer or licensed professional geoscientist determining that the existing buffers will be protective of water quality.
- (2) The permittee shall maintain documentation authorizing variances of buffer zones <u>on-site</u> [on site] for the duration of the permit and make it available to <u>executive director staff</u> [commission personnel] upon request.

(d) The permittee shall not locate a subsurface area drip dispersal system within a floodway. The permittee shall provide the source of all data for determination of the floodway locations and include a copy of the relevant Federal Emergency Management Agency (FEMA) flood map or the calculations and maps used where a FEMA map is not available.

#### §222.83. Hydraulic Application Rate.

- (a) The permittee must demonstrate in the engineering report and ensure that the hydraulic application rate for a subsurface area drip dispersal system meets one of the following.
- (1) The hydraulic application rate <u>shall not exceed 0.1 gallons per square</u> <u>foot per day</u> for a subsurface area drip dispersal system located west of the boundary shown in <u>Figure 1</u> [paragraph (2)] of this subsection, [Figure 1,] and using a vegetative cover of non-native grasses that are over seeded with cool season grasses in the winter months (October March) [shall not exceed 0.1 gallons per square foot per day].
- (2) The hydraulic application rate for a subsurface area drip dispersal system located east of the boundary shown in Figure 1 of this paragraph or in any part of the state when the vegetative cover is any crop other than non-native grasses, the

permittee shall use the [following] equations <u>in Figure 2 or 3 of this paragraph</u> to establish the rate.

Figure 1: 30 TAC §222.83(a)(2) (No change to the figure as it currently exists in TAC.)



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Figure 2: 30 TAC §222.83(a)(2) (No change to the figure as it currently exists in TAC.)

## R = ET - RAINe + LEACH

Where:

**AR** = hydraulic application rate (inches per month)

 $ET = ETo \times Kc$ , the actual water requirement of crop (inches per month)

**ETo** = potential evapotranspiration (inches per month)

**Kc** = crop coefficient (decimal) Kc ranges from 0.5 to 1.0

**RAIN***e* = RAIN x EF%, the effective rainfall (inches per month)

**RAIN** = total rainfall (inches per month)

EF% = effective rainfall percentage is the portion of rainfall/precipitation (inches) that infiltrates into the soil. An EF% of any value other than 0.67 must by justified by the applicant and approved by the executive director.

**LEACH** = leaching volume (inches per month). The leaching fraction may be determined using the electrical conductivity (millimhos/cm at 25° C) of the applied water and targeted soil salinity level (see §309.20(b)(3)(A) of this title (relating to Land Disposal of Sewage Effluent); or

Figure 3: 30 TAC §222.83(a)(2) (No change to the figure as it currently exists in TAC.)

$$SMa = ET - RAINe + LEACH - AR$$

Where:

**SMa** - change in available soil moisture and is calculated from the soil depth and soil water holding capacity. Soil water holding capacity is defined as the volume of water (inches) held in the soil between field capacity and permanent wilting point.

(3) The applicant must calculate the hydraulic application rate for each month of the year. A monthly water balance is computed that includes soil moisture storage. Any available soil moisture is carried over to the next month. The maximum application rate is exceeded when the total hydraulic loading (rainfall and irrigation) exceeds the total of the available soil moisture storage, the actual water requirement of crop (inches per month), and leaching.

Figure: 30 TAC §222.83(a)(3) (No change to the figure as it currently exists in TAC.)

Soil Water Holding Capacity	
Soil	Holding Capacity
Clay	2.1
Clay Loam	2.0
Loam	1.7
Sand	0.9
Sandy Loam	1.4

- (4) The permittee may use an alternative method to calculate the hydraulic application rate with [the] approval <u>from</u> [of] the executive director.
- (b) The nitrogen application rate for a subsurface area drip dispersal system must be calculated using the anticipated nitrogen concentration of wastewater effluent prior to land application.
- (1) The permittee must calculate the allowable annual hydraulic loading rate based on nitrogen limits using the [following] equation in this paragraph.

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Figure: 30 TAC §222.83(b)(1) (No change to the figure as it currently exists in TAC.)

$$Lw_{(n)} = (Cp)(Pr-ET) + (U)(4.4)$$
  
(1-f)(Cn) - Cp

Where:

 $\mathbf{L}\mathbf{w}_{\text{(n)}}$  = allowable annual hydraulic loading rate based upon nitrogen limits in inches per year

**Cp** = total nitrogen concentration in soil solution in milligrams per liter.

The soil solution contains small but significant quantities of soluble inorganic and organic compounds, some of which contains elements that are essential for plant growth.

Pr = precipitation rate in inches per year

ET = evapotranspiration rate in inches per year,

U = nitrogen uptake by crop in pounds per acre per year

**4.4** = combined conversion factor

**Cn** = total nitrogen concentration in wastewater at time of application to land in milligrams per liter

**f** = fraction of applied nitrogen removed by denitrification and volatilization and assumed to be 0.20.

- (2) Upon request by the applicant, the executive director may approve other fractions of applied nitrogen removed based upon special conditions relating to a proposed site, if justified in the engineering report.
- (c) The result obtained from calculation of the allowable annual hydraulic loading rate that is based upon nitrogen limits must be compared to the hydraulic loading rate that is based on crop need and soil water holding capacity <u>in the figure in subsection (a)(3) of this section</u>. The more restrictive of the two calculations will set the maximum hydraulic application rate.
- (d) The volume of wastewater used when calculating the disposal area required based on the hydraulic application rate as described in this section may be reduced by the beneficial reuse credit, as calculated in accordance with Chapter 309, Subchapter D of this title (relating to Beneficial Reuse Credit) and approved by the commission.
- (e) The disposal site area required may not be reduced by more than 50% of what the disposal site requirement would be using the permitted flow without the beneficial reuse credit.

#### §222.85. Effluent Quality.

(a) Protection of fresh water. The applicant must demonstrate that both surface and subsurface fresh water will not be polluted by the application of wastewater by the subsurface area drip dispersal system.

#### (b) Domestic wastewater [waste].

- (1) The permittee shall maintain the pH of the effluent within the limits of 6.0 9.0 standard units immediately prior to dispersal [in accordance with §309.20(b)(5)(E) of this title (relating to Land Disposal of Sewage Effluent)], unless a specific variance is approved by the executive director based upon site-specific conditions.
- (2) When a subsurface area drip dispersal system applies effluent on land where there is the potential for public contact with the soil, the permittee shall comply with Effluent Set 4 located in §309.4 of this title (relating to Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants), or with more stringent effluent limitations prescribed by the executive director, if warranted to protect human health or [and] the environment.

(3) When a subsurface area drip dispersal system applies effluent on land where there is not the potential for public contact with the soil, the permittee shall comply with Effluent Set 5 located in §309.4 of this title, or with more stringent effluent limitations prescribed by the executive director, if warranted to protect human health or [and] the environment.

## (4) Disinfection.

- (A) Permittees applying treated effluent to land where there is the potential for public contact with the soil must disinfect the effluent prior to it entering the subsurface area drip dispersal system in accordance with §309.3(g) of this title (relating to Application of Effluent Sets).
- (B) If the effluent is to be transferred to a holding pond or tank prior to dispersal, the permittee shall ensure that the effluent meets the relevant criteria of §222.87 of this title (relating to Effluent Limitations) at the time it enters the distribution system.
- (C) Permittees are allowed to use ultraviolet disinfection systems only with effluent having a daily average five-day biochemical oxygen demand [ $(BOD_5)$ ] concentration and total suspended solids concentration that are less than 20 milligrams per liter each.

(5) The permittee must comply with requirements other than those specified in this section, if determined by the executive director to be necessary to protect human health.

#### §222.87. Effluent Limitations.

- (a) Domestic <u>wastewater</u> [waste]. The permittee shall comply with the effluent limitations in §309.3 and §309.4 of this title (relating to Application of Effluent Sets and Table 1, Effluent Limitations for Domestic Wastewater Treatment Plants) and any specific effluent limitations placed in the permit by the executive director.
  - (b) Industrial <u>wastewater</u> [waste].
- (1) The permittee is prohibited from introducing the following wastes into a subsurface area drip dispersal system:
- (A) characteristically hazardous wastes as determined in 40 Code of Federal Regulations (CFR) Part 261, Subpart C;
  - (B) listed hazardous wastes as defined in 40 CFR Part 261, Subpart

D;

- (C) wastes specifically prohibited for land disposal in 40 CFR Part 268, Subpart C; and
- (D) wastes containing radioactive materials unless the permittee is authorized to store, process, and dispose of these wastes in compliance with the Atomic Energy Act of 1954 (as amended) or in compliance with the Texas Radiation Control Act.

#### (2) Effluent limitations.

- (A) The permittee shall comply with <u>the</u> effluent limitations established by the executive director in <u>an</u> individual <u>permit</u> [permits].
- (B) The permittee shall demonstrate compliance with technology-based effluent limitations by monitoring the effluent prior to introduction into the subsurface area drip dispersal system.
- (C) If the soil pH is less than 6.5 standard units at a subsurface area drip dispersal system site, the permittee shall monitor certain trace elements, including phosphorus, fluoride, and heavy metals as specified by the executive director in the individual permit.

(D) Prior to disposal, the permittee shall ensure that the effluent from a treatment system meets Effluent Set 5, established in §309.4 of this title.

# SUBCHAPTER D: DESIGN CRITERIA

§§222.115, 222.119, 222.127

## **Statutory Authority**

The amendments are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission, while TWC, §5.102, provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority as provided by TWC, §5.103; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities and duties under the TWC; TWC, §5.120, which requires the commission to administer the law for the maximum conservation and protection of the environment and natural resources of the state; TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state; TWC, §26.0135, which provides the commission with the authority to monitor and assess the water quality of each watershed and river basin in the state; TWC, §26.027, authorizing the commission to issue permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.034, which provides the commission with the authority, on a case-by-case basis, to review and approve plans and specifications for treatment facilities, sewer systems, and disposal systems that transport, treat, or dispose of primarily domestic wastes; TWC, §26.041, which gives

the commission the authority to set standards to prevent the disposal of waste that is injurious to the public health; and TWC, §26.121, which gives the commission the authority to set standards to prohibit unauthorized discharges into or adjacent to water in the state.

The amendments are also proposed under TWC, §11.1271(e), which requires the commission, in conjunction with the Texas Water Development Board, to develop model water conservation programs for different types of water suppliers that suggest best management practices for achieving the highest practicable levels of water conservation and efficiency achievable for each specific type of water supplier.

The amendments implement TWC, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271(e), 26.011, 26.0135, 26.027, 26.034, 26.041, and 26.121.

#### §222.115. Treatment System.

(a) For the systems and processes used to provide treatment of domestic wastewater prior to the wastewater entering the subsurface area drip dispersal system the applicant shall use the design criteria in <u>Chapter 217 of this title (relating to Design Criteria for Domestic Wastewater Systems) or Chapter 317 of this title (relating to Design Criteria Prior to 2008) as applicable [for Sewerage Systems].</u>

- (b) If using septic tanks as the treatment system, the applicant shall design, construct, and install the tanks in accordance with Chapter 285, Subchapter D of this title (relating to Planning, Construction, and Installation <u>Standards for</u> [of] OSSFs).
- (c) If using anaerobic biological reactors (ABRs) as the treatment system, the permittee must comply with the following criteria.
- (1) The ABR must have a container that is a structural unit such as a concrete tank, or an earthen berm with a membrane liner [that] may be used for larger installations.
- (A) The container must be designed for the internal and external stresses that may be placed on the container during fabrication and use.
- (B) Materials used to construct an ABR structural container must meet the requirements for septic tanks in §285.32 of this title (relating to Criteria for Sewage Treatment Systems).
- (C) Containers using compacted earthen berms must use a membrane of vinyl or other plastic with a minimum thickness of 40 mils as the waterproofing component.

- (D) A cover is required unless a covering layer of gravel or other media is placed above the liquid level to present a dry surface.
- (2) The ABR must have media that is inert, stable, of uniform size, and free of fines.
- (A) Clean washed gravel, crushed rock, or plastic filter media made for trickling filter use is acceptable.
- (B) Minimum media effective size must be one inch and the uniformity coefficient must be less than 3.0.
- (3) The ABR must have a distribution system over the bottom of the ABR and a collection system near the top of the ABR.
- (A) The piping for the distribution system must be constructed of pipe that:
  - (i) is class 200 or schedule 40 polyvinyl chloride (PVC);
- (ii) meets <u>ASTM International</u> [American Standard Testing Material] (ASTM) Standards [standards] D-2241 or D-1785; and

- (iii) has a <u>one-inch</u> [one inch] nominal diameter.
- (B) The ABR must incorporate a sight well that allows monitoring the liquid level in the unit.
- (C) The ABR must have a means to flush and remove excessive biomat buildup from the media.
- (d) If using sand filters as the treatment system, the permittee shall use sand filters that have the following components and meet the following requirements.
- (1) Sand filters must be contained in a structural unit designed for all internal and external stresses that may be placed on the containment device during fabrication and use such as:
- (A) a septic tank unit that meets the requirements in Chapter 285, Subchapter D of this title;
  - (B) a poured in place concrete structure; or

- (C) an earthen berm with an impermeable membrane liner that has a minimum thickness of 40 mils and an under-drain leak detection system.
- (2) The permittee shall use a detention time of at least 24 hours for dosing to a sand filter at rates up to ten gallons per day per square foot.
- (3) All sand filter containment devices shall provide sufficient freeboard above the filter surface to hold four dosing volumes.
- (4) A sand filter must have a collection pipe system to collect the filtered effluent that meets the following requirements.
- (A) The piping shall be arranged so that the maximum horizontal travel distance of water through the under-drain media is less than four feet.
- (B) The collection piping and the drain pipe from the filter shall be sized to remove a filter dose volume from the filter within a ten-minute period.
- (C) The ends of the collection lines shall be extended above the surface of the filter to allow aeration of the drained filter.
  - (D) The collection piping system shall be constructed of pipe that:

	(i) is class 200 or schedule 40 PVC;
ad	(ii) meets ASTM <u>Standards</u> [standards] D-2241 or D-1785;
and	
	(iii) has a two-inch nominal diameter.
(E) Th	e sand filter media must:
dirt, and organic material;	(i) be an inert, clean washed material that is free of fines,
for the design loading rate	(ii) have an effective size and uniformity coefficient suitable
design effluent quality wit	(iii) have a depth based on the effective grain size and the ch coarse media requiring a greater media depth; and
	(iv) be placed on top of a bottom drain media.

(F) The sand filter bottom media must:

- (i) cover the effluent collection piping;
- (ii) have an effective grain size from two to four times the effective grain size of the filter media; and
- (iii) support the filter media, prevent washout, and hydraulic removal of the filter media.
- (5) The surface distribution mechanism must distribute the liquid to be filtered over the surface of the filter in a uniform manner.
- (A) If a filter receives the liquid by gravity, distribution shall be accomplished by troughs or channels using splash pads to reduce surface erosion.
- (B) Pressure-dosed sand filters must have a distribution system that:
  - (i) provides even distribution of the liquid;
- (ii) consists of a pipe network with discharge holes or spray nozzles; and

- (iii) provides a uniform pressure at the discharge outlets.
- (6) Loading rates and filter sizing must be designed to treat the specific characteristics of the incoming wastewater and the effluent quality.
- (7) The loading rate shall be designed based on the influent qualities, the selected media, and the acceptable run time between filter media cleaning or replacement.
- (e) The permittee must submit a design that specifies the minimum frequency for solids removal from the treatment system and the justification of the frequency based on the type of system and good engineering practice.
- (f) The permittee shall design the treatment system with the capacity to process the peak flow from the wastewater producer. The following criteria shall be the basis to determine peak flow:
- (1) wastewater design values will be determined in accordance with §217.32 of this title (relating to Organic Loadings and Flows for New Wastewater Treatment Facilities); or §317.4(a)(1) or (2) of this title (relating to Wastewater Treatment Facilities); or

(2) the peak flows of the particular <u>wastewater</u> [waste] generator when the <u>wastewater</u> [waste] generator has unusually high peak flows.

## §222.119. Delivery Systems

- (a) The permittee shall ensure that piping materials used in delivering treated effluent from the treatment facility to the dispersal zones is suitable for effluent and conforms to regulations as required by <u>Chapter 217 of this title (relating to Design Criteria for Domestic Wastewater Systems) or Chapter 317 of this title (relating to Design Criteria Prior to 2008) as applicable [for Sewerage Systems)].</u>
- (b) The permittee shall identify the piping materials by referring to the appropriate <u>ASTM International</u> [American Standard Testing Material], American National Standard Institute, or American Water Works Association specification numbers.
- (c) A permittee shall use a multiple pump system for all systems requiring pumping of effluent to the dispersal zones.
- (1) The permittee shall use pumps rated by the manufacturer for effluent disposal.

- (2) The permittee shall use pumps that are each rated for at least 100% of the design flow.
- (3) The permittee shall include the pumping capacity and pump head calculations in the plans and specifications.
- (d) The permittee shall ensure that the pump discharge piping includes a check valve, union, and gate valve for each submersible pump installed.
- (e) The permittee shall use piping and valves made of corrosion-resistant materials for applications subject to corrosive gases.
- (f) If self-priming pumps are used for subsurface area drip dispersal systems, the permittee shall use pumps that meet at least the minimum requirements listed under §217.61 of this title (relating to Lift Station Pumps) or §317.3 of this title (relating to Lift Stations [Station Pumps]), with the exception that the pumps are not required to meet the solids-handling requirement.
- (g) The permittee shall include a check and gate valve for each unit of the discharge piping for self-priming pumps.

## §222.127. Storage.

- (a) The applicant must design and install temporary storage that equals at least three days of the design flow of the facility for times when the subsurface area drip dispersal system is out of service due to an emergency or scheduled maintenance.
- (b) In lieu of temporary storage, the executive director may approve an alternate method of disposing of effluent, if an alternate disposal plan is submitted by the applicant.
- (c) The volume of wastewater used when calculating the required effluent storage as described in this section may not be reduced by the beneficial reuse credit.

## SUBCHAPTER E: OPERATIONS AND MAINTENANCE §§222.157, 222.159, 222.163

## **Statutory Authority**

The amendments are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission, while TWC, §5.102, provides the commission with the authority to carry out its duties and general powers under its jurisdictional authority as provided by TWC, §5.103; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under the TWC and other laws of the state; TWC, §5.105, which authorizes the commission to adopt rules and policies necessary to carry out its responsibilities and duties under the TWC; TWC, §5.120, which requires the commission to administer the law for the maximum conservation and protection of the environment and natural resources of the state; TWC, §26.011, which provides the commission with the authority to establish the level of quality to be maintained in, and to control the quality of, the water in the state; TWC, §26.0135, which provides the commission with the authority to monitor and assess the water quality of each watershed and river basin in the state; TWC, §26.027, authorizing the commission to issue permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.034, which provides the commission with the authority, on a case-by-case basis, to review and approve plans and specifications for treatment facilities, sewer systems, and disposal systems that transport, treat, or dispose of primarily domestic wastes; TWC, §26.041, which gives

the commission the authority to set standards to prevent the disposal of waste that is injurious to the public health; and TWC, §26.121, which gives the commission the authority to set standards to prohibit unauthorized discharges into or adjacent to water in the state.

The amendments are also proposed under TWC, §11.1271(e), which requires the commission, in conjunction with the Texas Water Development Board, to develop model water conservation programs for different types of water suppliers that suggest best management practices for achieving the highest practicable levels of water conservation and efficiency achievable for each specific type of water supplier.

The amendments implement TWC, §§5.013, 5.102, 5.103, 5.105, 5.120, 11.1271(e), 26.011, 26.0135, 26.027, 26.034, 26.041, and 26.121.

#### §222.157. Soil Sampling.

- (a) The permittee shall take soil samples within the same 45-day time frame each calendar year.
- (b) Laboratory analyses of the soil samples must be submitted to the executive director by September 1 following the sampling date.

- (c) The plant nutrient parameters shall be analyzed on a plant available [or extractable] basis. The permittee shall provide annual soil analyses of the dispersal zones for the following substances:
- (1) pH (sample consisting of two volumes of water to one volume of soil mixture), in standard units;
- (2) conductivity (sample consisting of two volumes of water to one volume of soil mixture), reported in millimho per centimeter [(mmho/cm)];
- (3) total Kjeldahl nitrogen [(TKN)]. Methods that rely on mercury as a catalyst are not acceptable;
  - (4) nitrate-nitrogen;
- (5) plant-available potassium, reported on a dry-weight basis in milligrams per kilogram (mg/kg);
  - (6) calcium, reported on a dry-weight basis in mg/kg;
  - (7) magnesium [Magnesium], reported on a dry-weight basis in mg/kg;

- (8) sulfur [Sulfur], reported on a dry-weight basis in mg/kg; and
- (9) phosphorus, analyzed according to the Mehlich III procedure (the North American Proficiency Testing Program of the Soil Science Society of America) and reported on a dry-weight basis in mg/kg;
  - (10) sodium, reported on a dry-weight basis in mg/kg;
  - (11) salinity; and
  - (12) trace elements as specified in the individual permit.
  - (d) The permittee shall take samples in:
    - (1) the zero to 12-inch zone of the soil; and
    - (2) the 12- to 24-inch zone of soil in the disposal area.
- (e) If soil conditions or weather preclude sampling within the time period required, the permittee may submit a request to sample at another time. The request must include justification for the schedule change and the replacement schedule.

- (f) Alternate soil sampling depths and frequency may be approved by the executive director if the permittee demonstrates that the alternate depths and frequency sufficiently monitors nutrient levels.
- (g) The permittee shall collect soil composite samples from each broadly defined soil characterization or texture, as defined by the United States Department of Agriculture.
- (h) The permittee shall take at least one composite soil sample from each dispersal zone.
- (i) The permittee must comply with any alternate sampling methods or schedules required by the executive director.

## §222.159. Operator Licensing.

(a) The permittee shall ensure that the facility supplying treated domestic wastewater to the subsurface area drip dispersal system and the subsurface area drip dispersal system is operated by a chief operator holding a valid Class A, B, or C wastewater operator license as defined in Chapter 30 of this title (relating to Occupational Licenses and Registrations).

- (b) The permittee shall ensure that all wastewater operators have been trained to operate the specific treatment system and subsurface area drip dispersal system for which they have responsibility.
- (c) Records of operator training must be made available to <u>executive director</u> [agency] staff upon request.
- [(d) Any subsurface area drip dispersal system that utilizes treated domestic effluent and that is permitted under Texas Water Code, Chapter 26 before November 1, 2007, will not be required to have a chief operator with at least a Class C wastewater operator license until November 1, 2008.]

#### §222.163. Closure Requirements.

- (a) The permittee of a subsurface area drip dispersal system that is to be permanently discontinued or abandoned shall close the system under the standards set forth in this section.
- (b) If the permittee removes all tanks, lines, and other equipment from the site, the permittee may:

- (1) submit to the appropriate regional office a closure report prepared by the permittee that includes sufficient soil analyses to demonstrate that there is no soil contamination at the subsurface area drip dispersal system site; and
- (2) omit the requirement to deed record the location of the closed subsurface area drip dispersal system as required by subsection (f) of this section.
- (c) The permittee must conduct the closure according to a system closure plan that is prepared by or under the direct supervision of a licensed professional engineer or licensed professional geoscientist.
- (d) The permittee must close the system in a manner that prohibits the movement of fluids into underground sources of drinking water, in compliance with §331.5 of this title (relating to Prevention of Pollution) and 40 Code of Federal Regulations §144.12, concerning Prohibition of Movement of Fluid into Underground Sources of Drinking Water.
- (1) The permittee must remove all <u>aboveground</u> [above ground] tanks. The permittee may remove or empty, collapse in place, and cover with clean fill material any underground tanks.

- (2) The permittee must cap and remove three feet of the end sections of pipes that convey <u>wastewater</u> [waste] between the pump house and the dispersal lines. The permittee must cut and cap pipes every 500 linear feet between the pump house and the dispersal field.
- (3) The permittee shall remove all valves and plug the lines where the valves are located.
- (e) If soil, gravel, sludge, liquids, or other materials associated with the system are contaminated, the material must be disposed or otherwise managed in accordance with Chapter 350 of this title (relating to Texas Risk Reduction Program) and all other applicable federal, state, and local regulations and requirements.
- (f) The permittee must deed record the location of the closed subsurface area drip dispersal system in the deed records of the county in which the site is located.
- (g) The permittee shall submit, within 60 days after closing the system, a closure report:
- (1) that has been prepared by a licensed professional engineer or licensed professional geoscientist;

- (2) that certifies that closure was in accordance with the requirements of this section and in a manner that will prevent pollution; and
  - (3) includes evidence of deed recordation.